

CONTINUOUS FREE LAYER SPIN VALVE SENSOR WITH  
PATTERNED EXCHANGE UNDERLAYER STABILIZATION

ABSTRACT OF THE DISCLOSURE

5 A spin valve device comprises a free layer, a spacer layer, a  
pinned layer, an antiferromagnetic layer, and a patterned underlayer  
that includes a magnetic material for providing trackwidth and  
longitudinal bias. The patterned underlayer can comprise a buffer  
layer, an antiferromagnetic layer and a ferromagnetic layer.  
Alternatively, the patterned underlayer can comprises a buffer layer, a  
10 chromium layer and a hard biasing, permanent magnetic layer which  
provides trackwidth and longitudinal bias. A lower conductor can be  
located on the underlayer.